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ROBERT W. BECKER & ASSOCIATES
707 HIGHWAY 333
SUITE B
TIJERAS, NM 87059-7507

| EXAMINER | |
|---|---|
| DUONG, THANH P | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/659,839 | SCHLESSMANN ET AL. | |
| | Examiner | Art Unit | |
| | Tom P. Duong | 1797 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *12 October 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

Applicant's remarks and amendments filed on October 12, 2007 have been carefully considered. Claims 1 and 19 have been amended. Claim 11 has been canceled. Claims 1-19 are pending in this application.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-9 and 13-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jourdan '689 in view of Karlsson et al. '026.

Regarding claims 1-5, 7, 9, and 13-14, 16-17, and 19, Jourdan discloses a catalytic converter (Fig. 3) for the after-treatment of exhaust gas of an internal combustion engine, comprising: a housing (6a, 6b) having an internal space (27,28) adapted to receive exhaust gas therethrough, wherein said housing is provided with openings (19,21) for entry of exhaust gas into and out of said internal space, wherein surfaces of walls of said housing facing said internal space contain cartridges in a liners (25) having sound damping material impregnated with catalyst (Col. 4, lines 56-65) in a flow path between said openings, and hollow domes (25) disposed on each of two oppositely disposed walls (Figure 3) of said housing, wherein said hollow domes extend

into said internal space, wherein free ends of said hollow domes are provided with said openings (26), and wherein the free ends of those hollow domes on one of said walls extend beyond free ends of those hollow domes of the oppositely disposed wall such that one of said hollow domes disposed on one of said walls extends between ones of said hollow domes disposed on the other of said walls and said opening of said one hollow dome on said one wall is disposed in a space between said ones of said hollow domes disposed on the other wall, and wherein flow of exhaust, gas in said internal space in said housing is adapted to be diverted in the area of said openings at said free ends of said hollow domes to provide a thorough mixing of the exhaust gas (Fig. 3); and wherein said housing is provided with aligned holes for receiving fixing or mounting elements that extend through said housing (Fig. 2). Jourdan '689 discloses the use of a catalyst but fails to disclose the outer surfaces of said hollow domes are provided with a catalytically active coating.

However, Karlsson et al. '026 teaches the inside of the housings 13 and 14 are coated with catalyst layer (Col. 4, lines 56-65) and further teaches that the entire plate part (6) which includes raised portions (32) or dome-like structures are coated with a catalyzing layer C (Col. 5, lines 55-62). Thus, it would have been obvious in view of Karlsson et al. '026 to one having ordinary skill in the art to provide a catalyst coating as taught by Karlsson et al. '026 on the outer surfaces of the hollow domes of Jourdan '689 to further facilitate in treating the exhaust gas.

With respect to only free ends of said hollow domes are provided with openings, Jourdan '689 provides the hollow domes (25) with a plurality of openings with at least

one opening at or near the free ends for diverting the exhaust flow from one compartment to its adjacent compartment and such arrangement increases the contact between the exhaust flow and the catalyst , resulting improved catalytic activity (Fig. 3 and Col. 4, lines 56-65). The examiner's position that the mere difference between the openings near the free ends as disclosed by Jourdan or only at the free ends as recited by the instant claim is an obvious matter of design choice within the level of ordinary skill in the art, being the structural feature of Jourdan does not alter the operation of the device for diverting exhaust flow and facilitate in intermixing exhaust flow between each compartment, resulting improved catalytic activity. In addition, the above applied references essentially disclose the claimed invention except the arrangement of the openings at the dome structure. It would have been an obvious matter of design choice to one having ordinary skill in the art to rearrange the openings only at the free ends of the hollow dome structure since such arrangement is within the level of ordinary skill in the art and the shifting of the position of the openings to only at the free ends would not have modified the operation of the device. See *In re Japikse* and *In re Kuhle.* Note, even though applicant's modification results in great improvement and utility of over the prior art, it may still not be patentable if the modification was within the capabilities of one skilled in the art. *In re Sola*, 22 CCPA (Patents) 1313, 77 F.2d 627, 25USPQ 433; *In re Normann et al.*, 32 CCPA (Patents) 1248, 150 F.2d 627, 66 USPQ 308; *In re Irmscher*, 32 CCPA (Patents) 1259, 150 F.2d 705, 66 USPQ 314. With respect to the free ends of said hollow domes extend nearly to the oppositely disposed wall while forming a flow gap, and wherein said flow gap is about 2 to 3 mm, it appears the applied

references (Jourdan) disclose the flow gap is about 2 to 3 mm (Fig. 3) at most thru routine experimentation. Jourdan does not disclose the specific flow gap dimension but Jourdan discloses the flow gap (indicated by arrow 33) with optimal contact between the gas and the cartridge impregnated with catalyst material. Therefore, it would have been obvious in view of the applied references to one having ordinary skill in the art to optimize the flow gap dimension including the flow gap dimension of the instant claim in order to provide a flow gap with optimal contact between the gas and the cartridge impregnated with catalyst material, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980) and (*In re Allen* 105 USPQ 233). In addition, for purpose of argument, it should be noted that when the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device, and the device having the claimed dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device. Accordingly, it would have been an obvious matter of design choice in view of the applied references to one having ordinary skill in the art to optimize the flow gap dimension between the wall of the hollow domes as claimed in the instant claim, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose* , 220 F.2d 459, 105 USPQ 237 (CCPA 1955).

Regarding claim 6 and 8, the apparatus of the applied references is substantially the same as that of the instant claims but is silent with respect to the shape and size of the hollow domes. It is submitted that when the only difference between the prior art and the claims is a recitation of relative shapes and dimensions of the claimed device, and the device having the claimed shapes and dimensions and would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device. Accordingly, it would have been an obvious matter of design choice in view of the applied references to one having ordinary skill in the art to optimize the shape and size of the hollow domes as claimed in the instant claim, since such a modification would have involved a mere change in the shape and size of a component. A change in shape and size is generally recognized as being within the level of ordinary skill in the art.

Regarding claim 15, the applied references disclose the catalytic converter installed in the muffler with inlet window disposed at the same level of the inlet opening of said muffler. Note, the recitation of installing the catalytic converter with respect to the inlet window disposing at the same level as an inlet opening of said muffler is directed to intended use of a structure, which does not further limit structural limitations. Regarding claim 18, the recitation of "wherein flow of exhaust gas in said housing is diverted in the area of said openings at said free ends of said hollow domes by approximately 180°" is directed to the contents thereof during an intended operation and does not impart further structural limitation to the claimed invention. See *Ex Parte Thibault*, 164 USPQ 666, 667, (Bd. App. 1969).

2. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over the applied references (Jourdan '689 in view of Karlsson et al. '026) and further in view of Patent Application Publication 2001/00254408 (hereinafter PAP '408). Regarding claims 10-12, the applied references disclose the features of the claimed invention except shell portions are connected by means of an edge bead in the vicinity of said flange collar and pot-shaped configuration with abutment edge. PAP '408 teaches the shells (4,6) of a muffler (2) is joined together by a first and second flange portions (8, 10) with a bead (14) in the vicinity of said flange collar and such joining structure provide the benefits of a tight seal without using any sealing and packing material, which simplify the manufacturing process and minimize manufacturing cost (Sections 0016-0018). Thus, it would have been obvious in view of PAP '408 to one having ordinary skill in the art to modify the shell portions of the applied references with the flange collar having edge bead as taught by PAP '408 in order to gain the above benefits.

***Response to Arguments***

Applicant's arguments filed October 12, 2007 have been fully considered but they are not persuasive.

(1) Applicants argue that "the present application now requires that the outer surfaces of the hollow domes be provided with a catalytically active coating. It is respectfully submitted that there is no motivation or suggestion in the cited references to

replace the filling material that is disposed between the filter cartridges of Jourdan with a catalytic coating. "

Examiner respectfully disagrees. Karlsson et al. '026 teaches the inside of the housings 13 and 14 are coated with catalyst layer (Col. 4, lines 56-65) and further teaches that the entire plate part (6) including raised portions (32) or dome-like structures are coated with a catalyzing layer C (Col. 5, lines 55-62). Thus, it would have been obvious in view of Karlsson et al. '026 to one having ordinary skill in the art to provide a catalyst coating as taught by Karlsson et al. '026 on the outer surfaces of the hollow domes of Jourdan '689 to further facilitate in treating the exhaust gas.

(2) Applicants also argue that the amended claim 19 "now requires that the free ends of the hollow domes extend nearly to the oppositely disposed wall while forming a flow gap (13) through which the exhaust gas flows, with such flow gap being about 2 to 3 mm. The Examiner has indicated, that such a flow gap could be determined by routine experimentation. However, it is respectfully submitted that the cited art provides no teaching or suggestion that it would be advantageous to guide the exhaust gas through a relatively narrow flow gap."

Such contention is not persuasive as Jourdan discloses the flow gap (indicated by arrow 33) with optimal contact between the gas and the cartridge impregnated with catalyst material. Karlsson et al. '026 teaches the inside of the housings 13 and 14 are coated with catalyst layer (Col. 4, lines 56-65) and further teaches that the entire plate part (6) which includes raised portions (32) or dome-like structures are coated with a catalyzing layer C (Col. 5, lines 55-62).

Therefore, it would have been obvious in view of the applied references to one having ordinary skill in the art to optimize the flow gap dimension including the flow gap dimension of the instant claim in order to provide a flow gap with optimal contact between the gas and the catalyzed, outer surface of the hollow domes and the cartridge impregnated with catalyst material, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (*In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980) and (*In re Allen* 105 USPQ 233). In addition, for purpose of argument, it should be noted that when the only difference between the prior art and the claims is a recitation of relative dimensions of the claimed device, and the device having the claimed dimensions would not perform differently than the prior art device, the claimed device is not patentably distinct from the prior art device. Accordingly, it would have been an obvious matter of design choice in view of the applied references to one having ordinary skill in the art to optimize the flow gap dimension between the wall of the hollow domes as claimed in the instant claim, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose* , 220 F.2d 459, 105 USPQ 237 (CCPA 1955).

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P. Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM (IFP).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tom Duong
December 10, 2007
TD

Glenn Caldarola
Supervisory Patent Examiner
Technology Center 1700